Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (CURRENTLY AMENDED) A compound of formula

$$R^{61}$$
 R^{62}
 R^{63}
 R^{64}
 R^{60}
 R^{60}

A1

wherein W⁵ and X⁵ are independently selected from the group consisting of -(CH₂)_a-CR¹R², -O , -NR³, -S , and -Se; Y⁵ is selected from the group consisting of -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-N(R³)-(CH₂)_a-N(R³)-(CH₂)_c-NHCO-Bm, -(CH₂)_a-N(R³)-CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-CH₂-(CH₂OCH₂)_d-CONH-Bm, -CH₂-(CH₂OCH₂)_d-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-NR³R⁴, and

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 $\mathsf{CONH}\text{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}\mathsf{CONH}\mathsf{-}\mathsf{Dm},\ \mathsf{-}(\mathsf{CH}_2)_{\mathfrak{a}}\mathsf{-}\mathsf{NHCO}\mathsf{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{OCH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}\mathsf{CH}_2)_{\mathfrak{b}}\mathsf{-}(\mathsf{CH}_2\mathsf{CH}_2)_{\mathfrak{b}}$ CH_2 -NHCO-Dm, - $(CH_2)_a$ -N (R^3) - $(CH_2)_b$ -CONH-Dm, $(CH_2)_a$ -N (R^3) - $(CH_2)_c$ -NHCO-Dm, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm, -(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_$ NHCO-Dm, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OC$ $N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-NHCO-Dm, -(CH_2)_a-NR^3R^4, and$ -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; A₃ is a single or a double bond; B₃, C₃, and D₃ are independently selected from the group consisting of -O-, -S-, -Se-, -P-, -CR1R2, -CR1, alkyl, NR³, and -C = 0; A_3 , B_3 , C_3 , and D_3 may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; as vary from 0 to 5; R1 to R4, and R58 to R^{66} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{20} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyalkoxyalkyl, C_1 - C_{20} polyhydroxyalkyl, C_5 - C_{20} polyhydroxyaryl, C1-C10 aminoalkyl, cyano, nitro, halogen, saccharide, peptide, $- \mathrm{CH_2}(\mathrm{CH_2OCH_2})_b - \mathrm{CH_2} - \mathrm{OH}, \\ \left(\mathrm{CH_2} \right)_a - \mathrm{CO}_2 \mathrm{H}, \\ \left(\mathrm{CH_2} \right)_a - \mathrm{CONH} - \mathrm{Bm}, \\ - \mathrm{CH_2} - \left(\mathrm{CH_2OCH_2} \right)_b - \mathrm{CH_2} - \mathrm{CH_2OCH_2} + \mathrm{CH_2OCH_2} + \mathrm{CONH} - \mathrm{CH_2} - \mathrm{CONH} - \mathrm{CONH} - \mathrm{CH_2} - \mathrm{CH_2} - \mathrm{CONH} - \mathrm$ $\mathsf{CONH\text{-}Bm, -(CH_2)_a\text{-}NHCO\text{-}Bm, -CH_2\text{-}(CH_2\mathsf{OCH_2})_b\text{-}CH_2\text{-}NHCO\text{-}Bm, -(CH_2)_a\text{-}OH)} \\ \mathsf{and} \\$ -CH2-(CH2OCH2)b-CO2H; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic, hormone, metal

-CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; Z⁵ is selected from the group consisting of -(CH₂)_a-



chelating agent, radioactive or nonradioactive metal complex, and echogenic agent;

a and c independently vary from 1 to 20; b and d independently vary from 1 to 100.

2. (CURRENTLY AMENDED) The compound of claim 1 wherein W5 and X5 are independently selected from the group consisting of -C(CH₃)₂, -C((CH₂)_aOH)CH₃, $-C((CH_2)_aOH)_2$, $-C((CH_2)_aCO_2H)CH_3$, $-C((CH_2)_aCO_2H)_2$, $-C((CH_2)_aNH_2)CH_3$, C((CH₂)_aNH₂)₂, C((CH₂)_aNR³R⁴)₂, -NR⁹, and S; Y⁵ is selected from the group consisting of -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, $-CH_2-(CH_2OCH_2)_b-CH_2-NHCO-Bm$, $-(CH_2)_a-NR^3R^4$, and $-CH_2(CH_2OCH_2)_b-CH_2-(CH_2OCH_2)_b-CH_$ CH₂NR³R⁴; Z⁵ is selected from the group consisting of -(CH₂)_a-CONH-Dm, -CH₂- $(CH_2OCH_2)_b$ - CH_2 -CONH-Dm, $-(CH_2)_a$ -NHCO-Dm, $-CH_2$ - $(CH_2OCH_2)_b$ - CH_2 -NHCO-Dm, -(CH₂)_a-NR³R⁴, and -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; A₃ is a single or a double bond; B₃, C₃, and D₃ are independently selected from the group consisting of -O-, -S-, NR³, (CH2)_a -CR¹R², and -CR¹; A₃, B₃, C₃, and D₃ may together form a 6- to 10membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a5 vary from 0 to 3; R1 to ${\sf R^4}$, and ${\sf R^{58}}$ to ${\sf R^{66}}$ are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_g - C_{12} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyhydroxyalkyl, C_g - C_{12} polyhydroxyaryl, C₁-C₁₀ aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units, $-CH_2(CH_2OCH_2)_b$ - CH_2 -OH, $-(CH_2)_a$ - CO_2H , $-(CH_2)_a$ -CONH-Bm, $-CH_2$ - $(CH_2OCH_2)_b$ - CH_2 -CONH-Bm, $-(CH_2)_a$ -NHCO-Bm, $-CH_2$ - $(CH_2OCH_2)_b$ - CH_2 -NHCO-Bm,



-(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; Bm and Dm are independently selected from the group consisting of bioactive peptide containing 2 to 30 amino acid units, antibody, mono- or oligosaccharide, glycopeptide, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

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3. (ORIGINAL) The compound of claim 2 wherein each of W⁵ and X⁵ is $C((CH_2)OH)_2$; Y⁵ is $-(CH_2)_2$ -CONH-Bm; Z⁵ is $-(CH_2)_2$ -CONH-Dm; A₃ is a single bond; A₃, B₃, C₃, and D₃ together form a 6-membered carbocyclic ring; a₅ is 1; R⁵⁸ is galactose; each R⁵⁹ to R⁶⁸ is hydrogen; Bm is Octreotate; Dm is bombesin (7-14).

4. (CURRENTLY AMENDED) A method for performing a diagnostic or therapeutic procedure comprising

administering to an individual an effective amount of the compound of formula

$$R^{61}$$
 R^{62}
 R^{63}
 R^{64}
 R^{60}
 R^{69}
 R^{69}

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wherein W⁵ and X⁵ are independently selected from the group consisting of $-(CH_2)_a$ - $-CR^1R^2$, -O-, $-NR^3$, -S-, and -Se; Y⁵ is selected from the group consisting of $-(CH_2)_a$ --CONH-Bm, $-CH_2$ - $-(CH_2OCH_2)_b$ - $-CH_2$ - $-(CH_2OCH_2)_b$ - $-(CH_2)_a$ -

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-CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; Z⁵ is selected from the group consisting of -(CH₂)_a- $\mathsf{CONH}\text{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH}_2\mathsf{-}\{\mathsf{CH}_2\mathsf{OCH}_2\}_{\mathsf{b}}\mathsf{-}\mathsf{CH}_2\mathsf{-}\mathsf{CONH}\mathsf{-}\mathsf{Dm},\ \mathsf{-}(\mathsf{CH}_2)_{\mathsf{a}}\mathsf{-}\mathsf{NHCO}\mathsf{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH}_2\mathsf{-}\{\mathsf{CH}_2\mathsf{OCH}_2\}_{\mathsf{b}}\mathsf{-}\mathsf{CH}_2$ CH_2 -NHCO-Dm, $-(CH_2)_a$ -N(R³)-(CH₂)_b-CONH-Dm, $(CH_2)_a$ -N(R³)-(CH₂)_c-NHCO-Dm, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm$, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2O$ NHCO-Dm, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-(CH_2)_a-CONH-Dm$, $-CH_2-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_$ $N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-CONH-Dm$, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-CH₂-(CH₂OCH₂)_d-NHCO-Dm, -(CH₂)_a-NR³R⁴, and -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; A_3 is a single or a double bond; B_3 , C_3 , and D_3 are independently selected from the group consisting of -O-, -S-, -Se-, -P-, -CR1R2, -CR1, alkyl, NR³, and -C = O; A₃, B₃, C₃, and D₃ may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a₅ vary from 0 to 5; R¹ to R⁴, and R⁵⁸ to $m R^{66}$ are independently selected from the group consisting of hydrogen, $m C_1$ - $m C_{10}$ alkyl, C_5 - C_{20} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyalkoxyalkyl, C_1 - C_{20} polyhydroxyalkyl, C_5 - C_{20} polyhydroxyaryl, C₁-C₁₀ aminoalkyl, cyano, nitro, halogen, saccharide, peptide, $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-\text{OH}, -(\text{CH}_2)_a-\text{CO}_2\text{H}, -(\text{CH}_2)_a-\text{CONH-Bm}, -\text{CH}_2-(\text{CH}_2\text{OCH}_2)_b-\text{CH}_2-(\text{CH}_2\text$ CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-OH and -CH2-(CH2OCH2)h-CO2H; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic, hormone, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent;



5. (CURRENTLY AMENDED)

a and c independently vary from 1 to 20; b and d independently vary from 1 to 100, and a pharmaceutically acceptable carrier or excipient to form a composition, activating the compound using light, and performing the diagnostic or therapeutic procedure.

The method of claim 4 comprising administering to an individual an effective amount of the compound wherein W5 and X5 are independently selected from the group consisting of $-C(CH_3)_2$, $-C((CH_2)_3OH)CH_3$, $-C((CH_2)_3OH)_2$, $-C((CH_2)_3CO_2H)CH_3$, $-\frac{C((CH_2)_3CO_2H)_2}{CO_2H}_2$, -C((CH₂)_aNH₂)CH₃ , C((CH₂)_aNH₂)₂ , C((CH₂)_aNR³R⁴)₂, -NR⁹, and -S-; Y⁵ is selected from the group consisting of -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-NR³R⁴, and -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; Z⁵ is selected from the group consisting of -(CH₂)_a- $\mathsf{CONH}\text{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH_2}\text{-}(\mathsf{CH_2}\mathsf{OCH_2})_{\mathsf{b}}\text{-}\mathsf{CH_2}\text{-}\mathsf{CONH}\text{-}\mathsf{Dm},\ \mathsf{-}(\mathsf{CH_2})_{\mathsf{a}}\text{-}\mathsf{NHCO}\text{-}\mathsf{Dm},\ \mathsf{-}\mathsf{CH_2}\text{-}(\mathsf{CH_2}\mathsf{OCH_2})_{\mathsf{b}}\text{-}$ CH₂-NHCO-Dm, -(CH₂)_a-NR³R⁴, and -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; A₃ is a single or a double bond; B3, C3, and D3 are independently selected from the group consisting of -O-, -S-, NR 3 , (CH2), -CR 1 R 2 , and -CR 1 ; A $_3$, B $_3$, C $_3$, and D $_3$ may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; a5 vary from 0 to 3; R1 to ${\sf R^4}$, and ${\sf R^{58}}$ to ${\sf R^{66}}$ are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12}



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polyhydroxyaryl, C₁-C₁₀ aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units, -CH₂(CH₂OCH₂)_b-CH₂-OH, -(CH₂)_a-CO₂H, -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; Bm and Dm are independently selected from the group consisting of bioactive peptide containing 2 to 30 amino acid units, antibody, mono- or oligosaccharide, glycopeptide, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

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- 6. (ORIGINAL) The method of claim 5 comprising administering to an individual an effective amount of the compound wherein each W⁵ and X⁵ is $C((CH_2)OH)_2$; Y⁵ is $-(CH_2)_2$ -CONH-Bm; Z⁵ is $-(CH_2)_2$ -CONH-Dm; A₃ is a single bond; A₃, B₃, C₃, and D₃ together form a 6-membered carbocyclic ring; a₅ is 1; R⁵⁸ is galactose; each R⁵⁹ to R⁶⁶ is hydrogen; Bm is Octreotate; Dm is bombesin (7-14).
- 7. (ORIGINAL) The method of claim 4 wherein said procedure uses light of wavelength in the region of 350-1300 nm.
- 8. (ORIGINAL) The method of claim 4 wherein the diagnostic procedure is optical tomography.

- 9. (ORIGINAL) The method of claim 4 wherein the diagnostic procedure is fluorescence endoscopy.
- 10. (ORIGINAL) The method of claim 4 further comprising monitoring a blood clearance profile of said compound by fluorescence, absorbance or light scattering wherein light of wavelength in the region of 350-1300 nm is used.

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- 11. (ORIGINAL) The method of claim 4 wherein said procedure further comprises a step of imaging and therapy wherein said imaging and therapy is selected from the group consisting of absorption, light scattering, photoacoustic and sonofluoresence technique.
- 12. (ORIGINAL) The method of claim 4 wherein said procedure is for diagnosing atherosclerotic plaques and blood clots.
- 13. (ORIGINAL) The method of claim 4 wherein said procedure comprises administering localized therapy.
- 14. (ORIGINAL) The method of claim 4 wherein said therapeutic procedure comprises photodynamic therapy.
- 15. (ORIGINAL) The method of claim 4 wherein said therapeutic procedure comprises laser assisted guided surgery for the detection of micrometastases.

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16. (ORIGINAL) The method of claim 4 further comprising adding a biocompatible organic solvent to the at a concentration of one to fifty percent to the composition to prevent *in vivo* or *in vitro* fluorescence quenching.

17. (ORIGINAL) The method of claim 16 wherein said compound is dissolved in a medium comprising one to fifty percent dimethyl sulfoxide.



18. (CURRENTLY AMENDED) A composition comprising a cyanine dye bioconjugate of formula

$$R^{61}$$
 R^{62}
 R^{63}
 R^{64}
 R^{60}
 R^{60}

M

wherein W⁵ and X⁵ are independently selected from the group consisting of -(CH₂)_a-CR¹R²; -O·, -NR³; S , and Se; Y⁵ is selected from the group consisting of -(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-N(R³)-(CH₂)_a-N(R³)-(CH₂)_a-NHCO-Bm, -(CH₂)_a-N(R³)-CH₂-(CH₂OCH₂)_b-CH₂-CONH-Bm, -(CH₂)_a-N(R³)-CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-N(R³)-CH₂-(CH₂OCH₂)_a-CONH-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-NR³R⁴, and -CH₂-(CH₂OCH₂)_b-CH₂-NR³R⁴; Z⁶ is selected from the group consisting of -(CH₂)_a-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH-Dm, -CH₂-(CH₂OCH₂)_b-CH₂-CONH

 CH_2 -NHCO-Dm, - $(CH_2)_a$ -N(R³)- $(CH_2)_b$ -CONH-Dm, $(CH_2)_a$ -N(R³)- $(CH_2)_c$ -NHCO-Dm, $-(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-CH_2-CONH-Dm, -(CH_2)_a-N(R^3)-CH_2-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_2)_b-(CH_2OCH_$ $NHCO-Dm, -CH_{2}-(CH_{2}OCH_{2})_{b}-CH_{2}-N(R^{3})-(CH_{2})_{a}-CONH-Dm, -CH_{2}-(CH_{2}OCH_{2})_{b}-CH_{2}-(CH_{2}OCH_{2})_{$ $N(R^3)-(CH_2)_a-NHCO-Dm$, $-CH_2-(CH_2OCH_2)_b-CH_2-N(R^3)-CH_2-(CH_2OCH_2)_d-CONH-Dm$, -CH₂(CH₂OCH₂)_b-CH₂NR³R⁴; A₃ is a single or a double bond; B₃, C₃, and D₃ are independently selected from the group consisting of -O-, -S-, -Se-, -P-, -CR1R2, -CR1, alkyl, NR 3 , and -C=0; A $_3$, B $_3$, C $_3$, and D $_3$ may together form a 6- to 12-membered carbocyclic ring or a 6- to 12-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; $a_{\rm s}$ vary from 0 to 5; ${\rm R^1}$ to ${\rm R^4}$, and ${\rm R^{58}}$ to R^{66} are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{20} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyalkoxyalkyl, C_1 - C_{20} polyhydroxyalkyl, C_5 - C_{20} polyhydroxyaryl, C₁-C₁₀ aminoalkyl, cyano, nitro, halogen, saccharide, peptide, $- \mathrm{CH_2}(\mathrm{CH_2OCH_2})_b - \mathrm{CH_2} - \mathrm{OH}, - (\mathrm{CH_2})_a - \mathrm{CO}_2\mathrm{H}, - (\mathrm{CH_2})_a - \mathrm{CONH-Bm}, - \mathrm{CH_2} - (\mathrm{CH_2OCH_2})_b - (\mathrm{CH_2OCH_2})$ CONH-Bm, -(CH₂)_a-NHCO-Bm, -CH₂-(CH₂OCH₂)_b-CH₂-NHCO-Bm, -(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; Bm and Dm are independently selected from the group consisting of bioactive peptide, protein, cell, antibody, antibody fragment, saccharide, glycopeptide, peptidomimetic, drug, drug mimic, hormone, metal chelating agent, radioactive or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 20; b and d independently vary from 1 to 100, and a pharmaceutically acceptable carrier or excipient.

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The composition of claim 18 wherein W5 and X5 are 19. (CURRENTLY AMENDED) independently selected from the group consisting of $-C(CH_3)_2$, $-C((CH_2)_aOH)CH_3$, $-\mathsf{C}((\mathsf{CH_2})_{\mathfrak{g}}\mathsf{OH})_2\ ,\ -\mathsf{C}((\mathsf{CH_2})_{\mathfrak{g}}\mathsf{CO}_2\mathsf{H})\mathsf{CH}_3\ ,\ -\ \mathsf{C}((\mathsf{CH_2})_{\mathfrak{g}}\mathsf{CO}_2\mathsf{H})_2\ ,\ -\mathsf{C}((\mathsf{CH_2})_{\mathfrak{g}}\mathsf{NH}_2)\mathsf{CH}_3\ ,$ $C((CH_2)_9NH_2)_2$, $C((CH_2)_8NR^3R^4)_{27}$ -NR⁹, and S; Y⁵ is selected from the group consisting of - $(CH_2)_a$ -CONH-Bm, - CH_2 - $(CH_2OCH_2)_b$ - CH_2 -CONH-Bm, - $(CH_2)_a$ -NHCO- $\mathrm{CH_2NR^3R^4}$; $\mathrm{Z^5}$ is selected from the group consisting of -($\mathrm{CH_2}$)_a-CONH-Dm, - $\mathrm{CH_2}$ - $(CH_2OCH_2)_b$ - CH_2 -CONH-Dm, $-(CH_2)_a$ -NHCO-Dm, $-CH_2$ - $(CH_2OCH_2)_b$ - CH_2 -NHCO- CH_2 - $Dm_{1}-(CH_{2})_{a}-NR^{3}R^{4}$, and $-CH_{2}(CH_{2}OCH_{2})_{b}-CH_{2}NR^{3}R^{4}$; A_{3} is a single or a double bond; B₃, C₃, and D₃ are independently selected from the group consisting of -O-, -S-, NR3, (CH2), -CR1R2, and -CR1; A3, B3, C3, and D3 may together form a 6- to 10-membered carbocyclic ring or a 6- to 10-membered heterocyclic ring optionally containing one or more oxygen, nitrogen, or sulfur atom; as vary from 0 to 3; R1 to ${\sf R^4}$, and ${\sf R^{58}}$ to ${\sf R^{66}}$ are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_5 - C_{12} aryl, C_1 - C_{10} alkoxyl, C_1 - C_{10} polyhydroxyalkyl, C_5 - C_{12} polyhydroxyaryl, C₁-C₁₀ aminoalkyl, mono- or oligosaccharide, peptide with 2 to 30 amino acid units, -CH₂(CH₂OCH₂)_b-CH₂-OH, -(CH₂)_a-CO₂H, -(CH₂)_a-CONH-Bm, -CH₂- $(CH_2OCH_2)_b$ - CH_2 -CONH-Bm, $-(CH_2)_a$ -NHCO-Bm, $-CH_2$ - $(CH_2OCH_2)_b$ - CH_2 -NHCO-Bm, -(CH₂)_a-OH and -CH₂-(CH₂OCH₂)_b-CO₂H; Bm and Dm are independently selected from the group consisting of bioactive peptide containing 2 to 30 amino acid units, antibody, mono- or oligosaccharide, glycopeptide, metal chelating agent, radioactive

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or nonradioactive metal complex, and echogenic agent; a and c independently vary from 1 to 10; b and d independently vary from 1 to 30.

XI

20. (ORIGINAL) The composition of claim 19 wherein each of W⁵ and X⁵ is $C((CH_2)OH)_2$; Y⁵ is $-(CH_2)_2$ -CONH-Bm; Z⁵ is $-(CH_2)_2$ -CONH-Dm; A₃ is a single bond; A₃, B₃, C₃, and D₃ together form a 6-membered carbocyclic ring; a₅ is 1; R⁵⁸ is galactose; each R⁵⁹ to R⁶⁶ is hydrogen; Bm is Octreotate; Dm is bombesin (7-14), and a pharmaceutically acceptable carrier or excipient.